High Transparent Metal Oxide / Polyimide Antistatic Coatings, Phase II

Completed Technology Project (2006 - 2008)

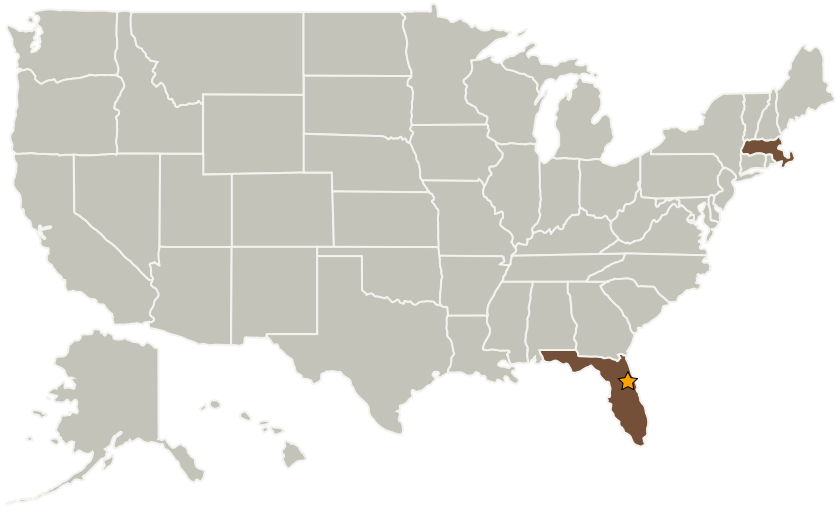
Project Introduction

Through this Phase I program, Agiltron has successfully produced an innovative transparent conductive nanocomposite paint that holds the promise of meeting space application requirements. The paint can be easily applied to many surfaces and forms a clear conductive coating at temperatures as low as 130

o

C. These coatings exhibit high visible transparency of ~ 85 % (> 95% with additional AR coating) and good conductive sheet resistance in the range of 106 to 108 ohm/sq. Agiltron has also performed harsh environmental testing in which the coatings show no degradation after undergoing UV radiation up to 32 J/cm2 irradiation, low temperature cycling down to 77 oK, high vacuum pumping, and collision with fragmented debris. The proposed robust clear conductive coating is therefore well suited for NASA space environment resistant polymer coating related applications. The high performance paint will also find wide commercial applications, such as in flexible displays. In Phase II, we will continue these efforts through a concentration on optimization and scale-up of stable ITO/polymer suspensions and the development of low-cost, large-scale deposition and patterning processes for the practical applications of this new class of transparent conductive coatings.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Kennedy Space Center (KSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Kennedy Space Center(KSC)	Lead Organization	NASA Center	Kennedy Space Center, Florida
AGILTRON Corporation	Supporting Organization	Industry	Woburn, Massachusetts

Primary U.S. Work Locations	
Florida	Massachusetts

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - TX12.1 Materials
    - TX12.1.5 Coatings